



DOCUMENT 704-97

FREQUENCY MANAGEMENT GROUP

SPECTRUM JUSTIFICATION TOOL KIT

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KWAJALEIN MISSILE RANGE
YUMA PROVING GROUND
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ABERDEEN TEST CENTER
NATIONAL TRAINING CENTER**

**ATLANTIC FLEET WEAPONS TRAINING FACILITY
NAVAL AIR WARFARE CENTER WEAPONS DIVISION
NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION
NAVAL UNDERSEA WARFARE CENTER DIVISION, NEWPORT
PACIFIC MISSILE RANGE FACILITY**

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45TH SPACE WING
AIR FORCE FLIGHT TEST CENTER
AIR FORCE DEVELOPMENT TEST CENTER
AIR WARFARE CENTER
ARNOLD ENGINEERING DEVELOPMENT CENTER
GOLDWATER RANGE**

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE APRIL 1997		3. REPORT TYPE AND DATES COVERED
4. TITLE AND SUBTITLE SPECTRUM JUSTIFICATION TOOL KIT			5. FUNDING NUMBERS	
6. AUTHOR(S)				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Frequency Management Group Range Commanders Council White Sands Missile Range, NM 88002			8. PERFORMING ORGANIZATION REPORT NUMBER RCC DOCUMENT 704-97	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) STEWs-RCC Secretariat Range Commanders Council White Sands Missile Range, NM 88002			10. SPONSORING / MONITORING AGENCY REPORT NUMBER same as block 8	
11. SUPPLEMENTARY NOTES new document				
12a. DISTRIBUTION / AVAILABILITY STATEMENT DISTRIBUTION A: APPROVED FOR PUBLIC RELEASE DISTRIBUTION IS UNLIMITED			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) Provides the range spectrum user with an easy-to-complete emitter survey.				
14. SUBJECT TERMS spectrum justification, spectrum loss			15. NUMBER OF PAGES 12	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLAS	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLAS	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLAS	20. LIMITATION OF ABSTRACT NONE	

DOCUMENT 704-97

SPECTRUM JUSTIFICATION TOOL KIT

APRIL 1997

Prepared by

**Frequency Management Group
Range Commanders Council**

Published by

**Secretariat
Range Commanders Council
U.S. Army White Sands Missile Range
New Mexico 88002-5110**

SPECTRUM JUSTIFICATION TOOL KIT

1. BACKGROUND

In the past several years, the U.S. Government has finally begun to realize the electromagnetic spectrum is a valuable and limited national resource. To help pay off the national debt, Congress has been aggressively seeking federal frequency bands that can be reallocated for nongovernment (commercial) use and auctioned off to the highest bidder. For the past several years, the DOD in particular, has been frequently called on (usually with little notice) to clarify and to justify its use of the electromagnetic spectrum. These requests must be dealt with in a timely and thorough manner. To do otherwise could very well cost DOD a crucial frequency band with no possibility of monetary compensation or band replacement. And since almost everyone at the ranges uses the spectrum in some capacity (radars, land-mobile, A/G/A AM/FM, telemetry, electronic countermeasures, and electronic countercountermeasures), spectrum loss will adversely affect their mission capabilities.

2. PURPOSE

This Spectrum Justification Tool Kit (SJTK) provides the range spectrum user with an easy-to-complete emitter survey. Once completed, the survey data will permit Range Frequency Managers to respond quickly and efficiently to entreaties from the national level such as the Office of Assistant Secretary of Defense (OASD); Command, Control, Communications, and Intelligence (C³I); Air Force Frequency Management Office (AFFMO); Army Frequency Management Office (AFMO); Naval Electromagnetic Spectrum Center; and Joint Spectrum Center, when important range frequency bands are identified or proposed for reallocation.

Please respond as soon as possible by E-mailing or faxing the completed form to your test range Frequency Manager or DOD Area Frequency Coordinator.

SPECTRUM JUSTIFICATION SURVEY

Technical Data

(1) Emitter System Name/Model/Nomenclature:

(2) Current Frequency/Band Assignments (in Mhz):

(3) Does the system have any electromagnetic countermeasures or electromagnetic countercountermeasures (ECM/ECCM) capabilities such as frequency agility, frequency hopping, or direct frequency spread spectrum?

☐ Yes ☐ No If Yes, please describe.

(4) Does the system have any characteristics specifically designed to enhance spectrum use efficiency?

☐ Yes ☐ No If Yes, please describe.

(5) Are system upgrades planned?

☐ Yes ☐ No If Yes, does the upgrade call for any significant changes to the radio frequency (RF) characteristics of the system?

☐ **Yes** ☐ **No** If **Yes**, please describe any RF changes such as operating frequency, bandwidth, transmitter power, waveform, or antenna parameters.

(6) Are new system being considered or planned for development in the same frequency band?

☐ **Yes** ☐ **No** If **Yes**, please describe.

Usage Data

(1) A statement of the range mission accomplished by this equipment.

(2) Are copies of requirements documents such as the Operational Requirements Document (ORD) and Mission Needs Statement (MNS) available?

☐ **Yes** ☐ **No**

(3) Number of units currently in service:

(4) Typical Use

- Locations (for example, particular bases, naval op areas):

- Frequency of use (hourly, daily, weekly):

- Duration of use:

- Any operational restrictions (channels or geographical areas that must be avoided):

- Number of units in use at same time in same area:

(5) Has this equipment caused or suffered electromagnetic interference (EMI) to or from other systems (both DOD and commercial)?

☐ Yes ☐ No If Yes, please describe.

(6) In the case of such EMI, what measures are taken to avoid such occurrences (for example, frequency separation)?

(7) What is the expected service life/date?

(8) Describe the **operational impact** if you were denied use of the threatened band within 1 year. Indicate the associated costs in equipment replacement time, money, manhours, and, if applicable, jobs lost.